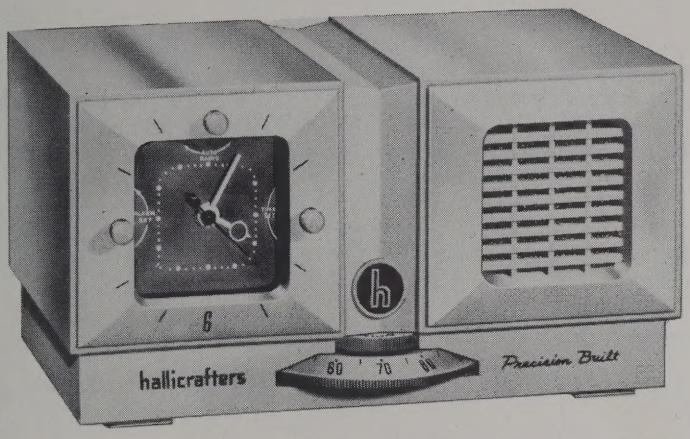
SERVICE INSTRUCTIONS

ATOM CLOCK RADIO MODELS ATCL-5-6 & 7



HALLICRAFTERS ATOM CLOCK RADIO

92X1855

Models ATCL-5 (mahogany brown), ATCL-6 (forest green) and ATCL-7 (birch white)

SPECIFICATIONS

Tubes	5 including 1 rectifier
Power Supply	105-120 volts 60 cycles AC only
Wiring	Hallicrafters' power print circuit
Clock	Sessions, self starting type
Frequency Coverage	535 - 1620 KC
Intermediate Frequency	455 KC
Speaker Voice Coil Impedance	3.2 ohms
Antenna	Built-in Loop

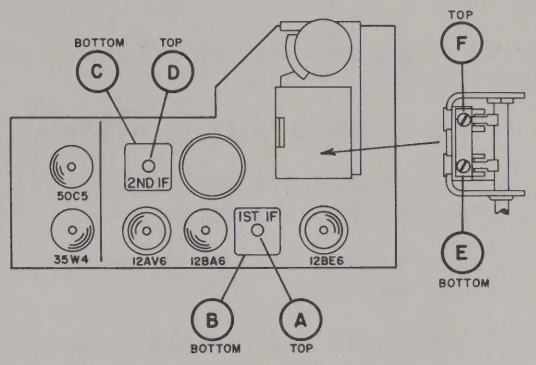


Fig. 1. Top View of Chassis Showing Location of Alignment Adjustments 9281857

ALIGNMENT PROCEDURE

TO AVOID SHOCK HAZARD CONNECT POWER THROUGH AN ISOLATION TRANSFORMER

- Connect output meter across voice coil.
- Set volume control at maximum.
- Use a non-metallic alignment tool.
- Refer to Fig. 1 for location of alignment adjustments.
- Generator must have modulated output and cover 455 KC, 1400 KC and 1620 KC.
- To avoid AVC action use lowest output setting of generator that gives a satisfactory reading on meter.

Step	Signal Generator Connections	Generator Frequency	Receiver Dial Setting	Adjust for Maximum Output
1	High side thru .1 mfd. capacitor to stator plates of top section of tuning gang. Low side to the frame of the tuning gang	455 KC	1000 KC	A, B, C & D (1st & 2nd IF Transformers)
2	Construct a loop of a few turns of wire and connect it to the signal generator. Loosely couple this loop to the loop antenna of the receiver	1620 KC	Tuning gang fully open	E (osc. trimmer)
3	Same as Step 2	1400 KC	1400 KC	F (ant. trimmer)

the hallicrafters co.

MANUFACTURERS OF RADIO AND ELECTRONIC EQUIPMENT, CHICAGO 24, U. S. A.

IMPORTANT

READ CAREFULLY BEFORE REPLACING COMPONENT PARTS.

The ATOM CLOCK RADIO employs the new Hallicrafters POWER PRINT CIRCUIT. The printed circuit replaces the conventional chassis wiring as found in ordinary receivers. The circuit is printed on the nonconducting chassis and the solder is applied by a dipping process after the mounting of the component parts. Extreme care must be used when replacing parts that are bound by solder to the printed circuit. It is however entirely practicable to replace any part of the receiver.

When replacing components, such as resistors, that have leads accessible from the top of the chassis, clip the leads as close as possible to the old part. This will permit the soldering of the new part to the old leads without disturbing the printed circuitry.

Whenever soldering operations become necessary on the underside of the chassis use a small tipped, low wattage soldering iron. Rosin core solder of the type ordinarily used for radio work will be satisfactory for repair purposes, If it becomes necessary to break a lead for test purposes, scratch across the surface with a knife or other sharp instrument. The connection may be restored by bridging across the gap with solder. Do not remove any more material than necessary to break the connection as solder will not adhere to the chassis once the printed copper surface has been removed.

To remove components, such as IF transformers, that have terminals protruding from the underside of the chassis proceed as follows:

1. Using a cutting pliers clip the terminals as close as possible to the bottom of the chassis.
2. Using a small tipped low wattage soldering iron and a small stiff bristle brush, remove the excess solder surrounding the remaining portion of the terminals.
3. Remove any remaining solder that may still bind the terminals to the circuit by means of a knife or other sharp pointed instrument

The old part may now be removed and the replacement carefully soldered into position.

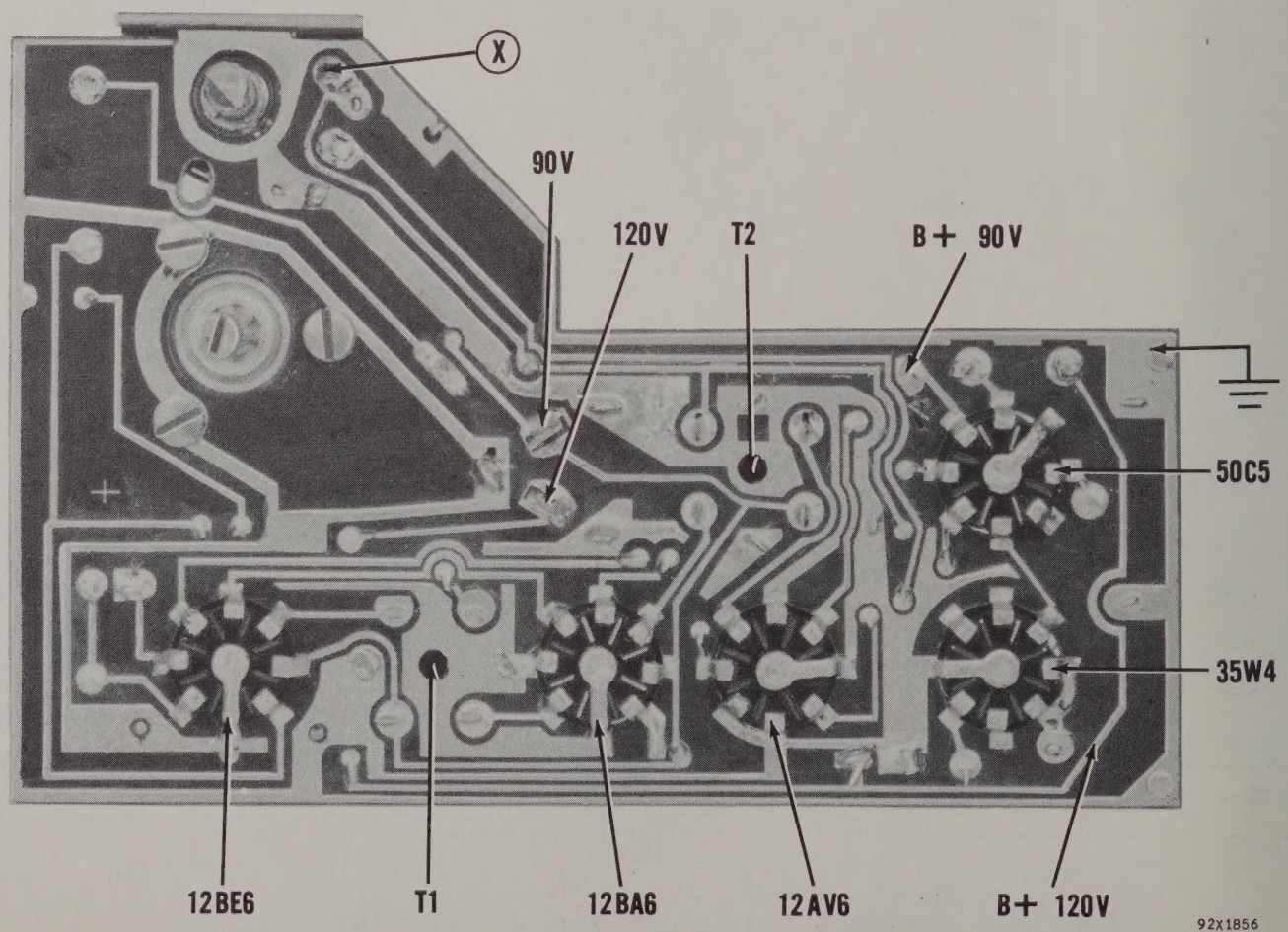
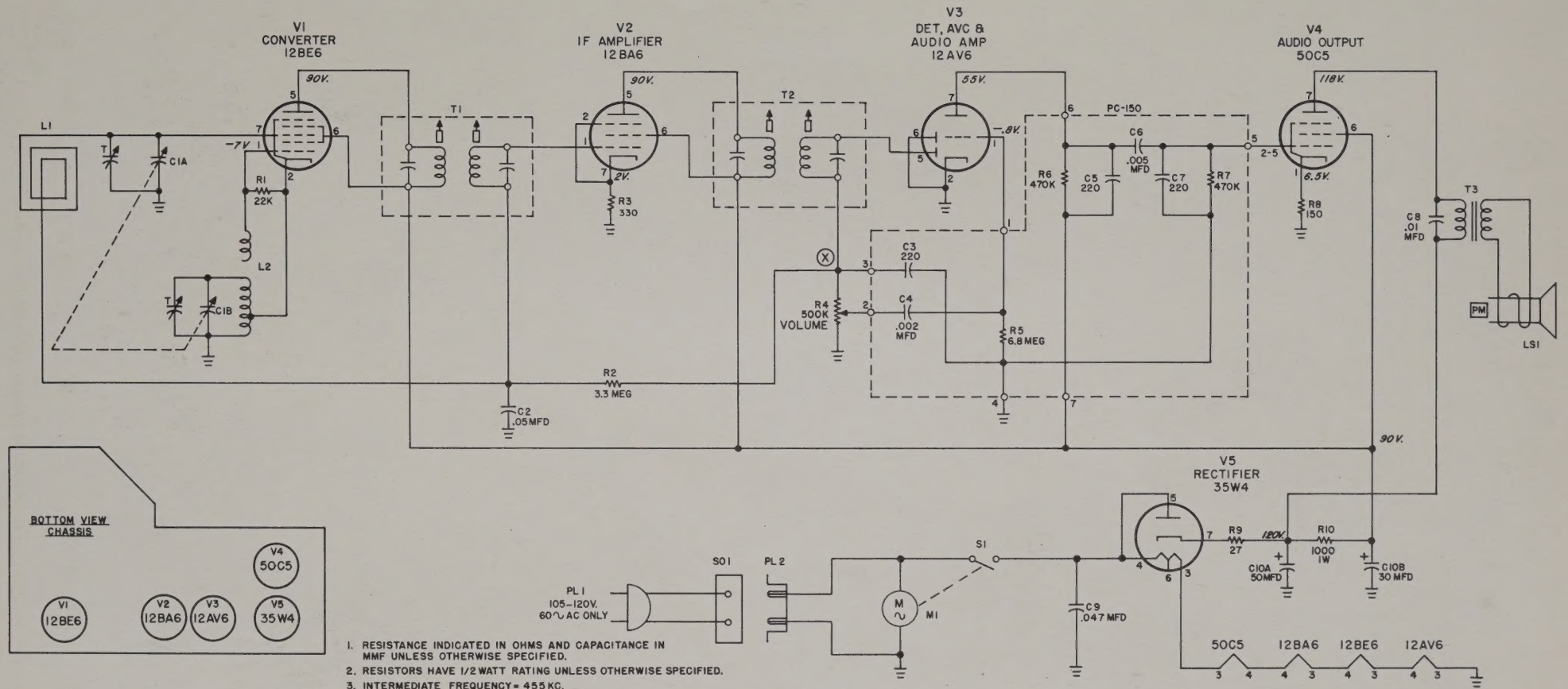


Fig. 2. Bottom Chassis View Showing Hallicrafters Power Print Circuit



1. RESISTANCE INDICATED IN OHMS AND CAPACITANCE IN MMF UNLESS OTHERWISE SPECIFIED.
2. RESISTORS HAVE 1/2 WATT RATING UNLESS OTHERWISE SPECIFIED.
3. INTERMEDIATE FREQUENCY = 455 KC.
4. LINE VOLTAGE - 117 VOLTS 60~ AC.
5. ALL VOLTAGES ARE MEASURED WITH A VACUUM TUBE VOLTMETER (VTVM) AND ARE DC AND POSITIVE UNLESS OTHERWISE SPECIFIED.
6. ALL VOLTAGES ARE MEASURED BETWEEN TUBE SOCKET TERMINALS AND B- (⏚).
7. K = 1000
8. (X) INDICATES LOCATION OF HIGH SIDE OF VOLUME CONTROL ON FIG. 2.

VALUES AND TOLERANCES SHOWN ARE NOMINAL AND VARIATIONS MAY BE FOUND. IT IS RECOMMENDED THAT THE VALUE OF ANY REPLACEMENT CORRESPOND TO THE NOMINAL VALUE OF THE PART BEING REPLACED.

89D492

Fig. 3. Schematic Diagram

SERVICE PARTS LIST

Schematic Symbol	Description	Hallicrafters Part Number
	CAPACITORS	
C-1A,1B	Tuning Capacitor, 2 section	48C303
C-2	.05 mfd. 200 V., tubular paper	46AU503J
C-3,4,5, 6 & 7	Part of Couplate PC-150	---------
C-8	.01 mfd., 600 V, paper (part of speaker assembly LS-1)	---------
C-9	.047 mfd., moulded paper	46BR473L4
C-10A,10B	50 - 30 mfd. 150VDCW, Electrolytic	45-230
	RESISTORS	
R-1	22,000 ohms, ½ watt, carbon	23X20X223K
R-2	3.3 megohms, ½ watt, carbon	23X20X335M
R-3	330 ohms, ½ watt, carbon	23X20X331K
R-4	500,000 ohms, variable, VOLUME CONTROL	25-1028
R-5,6 & 7	Part of Couplate PC-150	---------
R-8	150 ohms, ½ watt, carbon	23X20X151K
R-9	27 ohms, ½ watt, carbon	23X20X270K
R-10	1000 ohms, 1 watt, carbon	23X30X102K
	COILS AND TRANSFORMERS	
L-1	Loop Antenna and Cabinet Back assembly	57-177
L-2	Coil, Oscillator	51-1613
T-1 & 2	Transformer, First IF, Second IF	50-572
T-3	Transformer, Audio Output; PART OF SPEAKER LS-1	
	TUBE COMPLEMENT	
V-1	12BE6; converter	90X12BE6
V-2	12BA6; IF amplifier	90X12BA6
V-3	12VA6; detector, AVC and audio amplifier	90X12AV6
V-4	50C5; audio output	90X50C5
V-5	35W4; rectifier	90X35W4

Schematic Symbol	Description	Hallicrafters Part Number
	MISCELLANEOUS PARTS	
	Bracket, chassis mounting	67C2098
	Cabinet, plastic	
	for ATCL-5 (Mahogany Brown)	116-021
	for ATCL-6 (Forest Green)	116-022
	for ATCL-7 (Birch White)	116-023
	Knob, tuning	
	for ATCL-5 (Mahogany Brown)	15A553
	for ATCL-6 (Forest Green)	15A554
	for ATCL-7 (Birch White)	15A555
	Knob, volume control	
	for ATCL-5 (Mahogany Brown)	15A556
	for ATCL-6 (Forest Green)	15A557
	for ATCL-7 (Birch White)	15A558
	Knob, time set, alarm set or radio control	
	for ATCL-5 (Mahogany Brown)	15A559
	for ATCL-6 (Forest Green)	15A560
	for ATCL-7 (Birch White)	15A561
M-1, S-1	Clock unit (includes switch S-1)	80D122
	Crystal, clock	22C372
PC-150	Couplate, includes C-3,4,5,6 & 7 and R-5, 6 & 7	49-027
	Grille Cloth and Baffle	14-347
PL-1, SO-1	Line cord and plug assembly	87B1668-1
PL-2	Line cord interlock	10-536
	Plate Assembly (PRINTED CIRCUIT CHASSIS INCLUDES ALL TUBE SOCKETS)	130-001
	Shield, Tube	69A232
LS-1	Speaker Assembly, includes C-8 and T-3	85-146
	Spring, printed circuit chassis mounting	75B270
	Shield, reflector	69B549

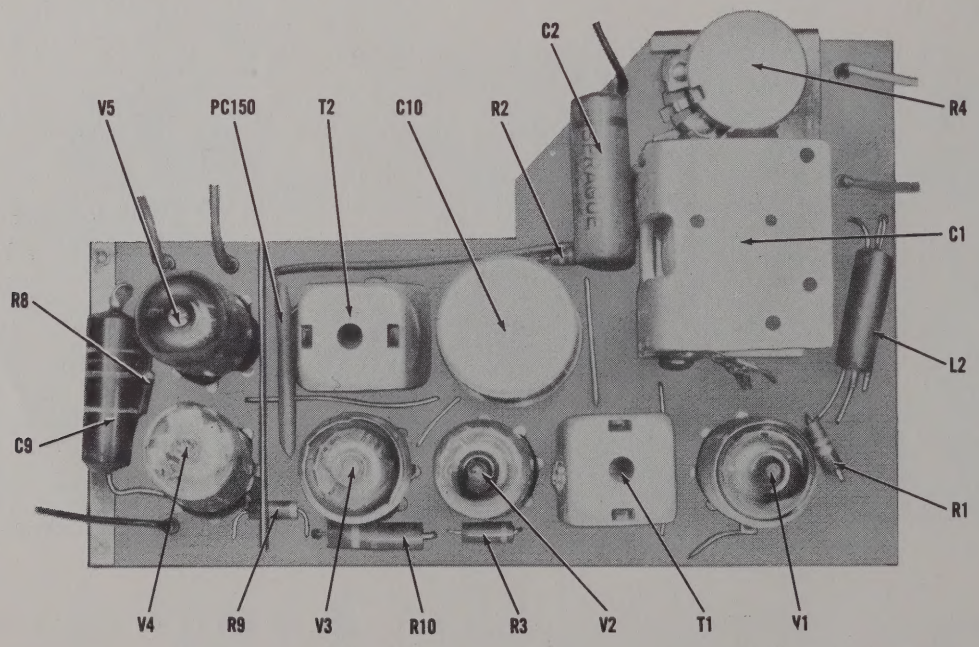


Fig. 4. Top View Showing Component Location